

GLOSSARY

ABIOTIC Related to non-living factors, such as air pollutants, wind, water, and temperature.

ABSORPTION The movement of a chemical into plants, animals (including humans), microorganisms, or soil.

ACARICIDE A pesticide used to control mites and ticks. A miticide is a type of acaricide.

ACIDIC Having a pH less than 7.

ACTION THRESHOLD A predetermined level of pest infestation or damage at which some type of pest management action must be taken.

ACTIVATED CHARCOAL A finely ground charcoal that adsorbs chemicals.

ACTIVATOR An adjuvant added to a pesticide to increase its toxicity.

ACTIVE INGREDIENT The chemical or chemicals in a product responsible for pesticidal activity.

ACUTE EFFECT An illness that occurs shortly after exposure to a pesticide.

ACUTE EXPOSURE An exposure to a single dose of pesticide.

ACUTE TOXICITY An injury produced from a single exposure. LD₅₀ and LC₅₀ are common indicators of the degree of acute toxicity. (See **CHRONIC TOXICITY**.)

ADJUVANT A substance added to a pesticide to improve its effectiveness or safety. Same as additive. Examples: penetrants, spreader-stickers, and wetting agents.

ADSORPTION The process whereby chemicals are held or bound to a surface by physical or chemical attraction. Clay and high-organic soils tend to adsorb pesticides.

ADULTERATED PESTICIDE A pesticide that does not conform to the specified standard or quality as documented on its label or labeling.

AEROSOL A chemical stored in a container under pressure. An extremely fine mist is produced when the material, dissolved in a liquid, is released into the air.

AGITATION The process of stirring or mixing in a sprayer.

AIR-BLAST SPRAYER A type of pesticide application equipment that uses a large volume of air moving at high speed to break up and disperse spray droplets from the nozzles.

ALGAE Relatively simple plants that are photosynthetic and contain chlorophyll.

ALGAECIDE (ALGICIDE) A pesticide used to kill or inhibit algae.

ALKALINE Having a pH greater than 7; also called basic.

ALLERGIC EFFECTS /ALLERGY A hypersensitivity to a specific substance, often called the allergen. An allergy may cause dermatitis, blisters, or hives; it could also cause illness, asthma, or life-threatening shock. Often the entire body is affected. Pesticide allergy symptoms are similar to other allergy symptoms—reddening and itching of the eyes, respiratory discomfort, and asthma-like symptoms.

ANNUAL A plant that completes its life cycle in one year.

ANTAGONISM The reduction of pesticide activity when two or more different pesticides are mixed together.

ANTIBIOTIC Chemical produced by a microorganism that is toxic to other microorganisms. Examples: streptomycin and penicillin.

ANTICOAGULANT A chemical that prevents normal blood clotting; the active ingredient in some rodenticides.

ANTIDOTE A practical treatment used to counteract the effects of pesticide poisoning or some other poison in the body.

ANTI-SIPHONING DEVICE A hose attachment designed to prevent backflow of a pesticide mix from the spray tank into a water source.

ANTI-TRANSPIRANT A chemical applied to a plant to reduce the rate of transpiration or water loss.

APPLICATION RATE The amount of pesticide that is applied to a known area, such as an acre or 1,000 square feet or linear feet.

AQUIFER A geologic formation from which groundwater can be drawn. An aquifer can be a layer of sand, gravel, or other soil materials, or a section of bedrock with fractures through which water can flow.

ARACHNID A wingless arthropod with two body regions and four pairs of jointed legs. Spiders, ticks, and mites are arachnids.

ARTHROPOD An invertebrate animal characterized by a jointed body and limbs and usually a hard body covering that is molted at intervals. Insects, mites, and crayfish are arthropods.

ATROPINE (ATROPINE SULFATE) An antidote used to treat organophosphate and carbamate poisoning.

ATTRACTANT A substance or device to lure insects or other pests to a trap or poison bait.

AVICIDE A chemical used to kill or repel birds.

BACK-SIPHONING The movement of a liquid pesticide mixture from a spray tank through the filling hose into the water source.

BACTERIA (singular: **BACTERIUM**) Microscopic organisms, some of which are capable of producing diseases in plants and animals.

BACTERICIDE A chemical used to control bacteria.

BAIT A food or other substance used to attract a pest to a pesticide or a trap.

BAND APPLICATION An application of a pesticide or other material in or beside a crop row rather than over the entire field. (See **BROADCAST APPLICATION**.)

BASAL APPLICATION An application to plant stems or trunks at or just above the ground line.

BENEFICIAL INSECT An insect that is useful or helpful to humans. Examples are pollinators, parasites, and predators of pests.

BIENNIAL A plant that completes its life cycle in two years.

BIOACCUMULATION The ability of organisms to accumulate or store chemicals in their tissues.

BIOLOGICAL CONTROL The control of pests using predators, parasites, and disease-causing organisms. It may be naturally occurring or introduced.

BIOLOGICAL DEGRADATION The breakdown of chemicals due to the activity of living organisms, especially bacteria and fungi in the soil.

BIOMAGNIFICATION The process whereby some organisms accumulate chemical residues in higher concentrations than those found in the organisms they consume.

BIOPESTICIDE A pesticide derived from naturally occurring materials.

BOOM A pesticide application device attached to a truck, tractor, aircraft, or other vehicle, or held by hand, to which multiple spray nozzles are attached.

BOTANICAL PESTICIDE A pesticide produced from naturally occurring chemicals in plants. Examples: nicotine, pyrethrum, and rotenone.

BRANDNAME The registered or trade name, number, or designation given to a specific pesticide product or device by the manufacturer or formulator.

BROADCAST APPLICATION The uniform application of a pesticide or other material over an entire field or area.

BROADLEAF PLANTS Plants with broad, rounded, or flattened leaves with netted veins. Examples: dandelions and roses. Different from the narrow, blade-like leaves with parallel veins of grasses, sedges, rushes, and onions.

BROAD-SPECTRUM PESTICIDE A pesticide that is effective against a wide range of pests.

BUFFERS Adjuvants used to retard chemical degradation of some pesticides by lowering the pH of alkaline water and maintaining the pH within a narrow range even with the addition of acidic or alkaline materials.

CALIBRATE/CALIBRATION To properly adjust equipment; to determine the correct amount of material to be applied to the target area.

CARBAMATES A group of pesticides commonly used for control of insects, mites, fungi, and weeds. N-methyl carbamate insecticides, miticides, and nematicides are cholinesterase inhibitors.

CARCINOGEN A substance or agent able to produce malignant tumors (cancer).

CARRIER An inert liquid, solid, or gas added to an active ingredient to make a pesticide formulation. A carrier is also the material, usually water or oil, used to dilute the formulated product for application.

CAUSAL ORGANISM The organism (pathogen) that produces a given disease.

CAUTION The signal word associated with pesticide products classified as slightly toxic; these pesticides have an oral LD₅₀ greater than 500mg/kg and a dermal LD₅₀ greater than 2,000mg/kg.

CERTIFIED APPLICATOR A person qualified to apply or supervise the application of restricted-use pesticides.

CHEMICAL NAME The technical name of the active ingredient(s) found in the formulated product. This complex name is derived from the chemical structure of the active ingredient.

CHEMIGATION The application of pesticides or fertilizers to a target site in irrigation water. Also known as injector systems when used in greenhouses.

CHEMTREC The Chemical Transportation Emergency Center. It supports a toll-free number that provides 24-hour information for chemical emergencies such as a spill, leak, fire, or accident—1-800-424-9300.

CHLORINATED HYDROCARBON A pesticide containing chlorine, carbon, and hydrogen. Many are persistent in the environment. Examples: chlordane, DDT, methoxychlor. Also called **ORGANOCHLORINES**.

CHLOROSIS The yellowing of a plant's normally green tissue.

CHOLINESTERASE A chemical catalyst (enzyme) found in humans and many other animals that regulates the activity of nerve impulses by deactivating the chemical neurotransmitter acetylcholine.

CHRONIC TOXICITY The ability of small amounts of pesticide from repeated, prolonged exposure to cause injury. (See **ACUTE TOXICITY**.)

COMMERCIAL APPLICATOR A certified applicator who uses or supervises the use of pesticides for purposes other than those covered under a private applicator certification.

COMMON NAME A name given to a pesticide active ingredient by a recognized committee on pesticide nomenclature. Many pesticides are known by a number of trade or brand names, but each active ingredient has only one recognized common name. Example: the common name for Sevin insecticide is carbaryl.

COMPATIBILITY AGENT An adjuvant used to enhance the mixing of two or more pesticide products and/or fertilizers.

COMPATIBLE When two or more chemicals can be mixed together without reducing the effectiveness or characteristics of any individual chemical in the mixture, they are said to be compatible.

CONCENTRATION The amount of active ingredient in a given volume or weight of formulated product.

CONTACT EFFECTS Injury at the point of contact, including skin discoloration and irritation (dermatitis) such as itching, redness, rashes, blisters, and burns. Also, swelling, stinging, and burning of the eyes, nose, mouth, or throat are contact effects.

CONTACT PESTICIDE Any pesticide that controls pest organisms upon contact. These may be insecticides, miticides, fungicides, or herbicides.

CONTAINMENT PAD An impermeable pad used for mixing and loading pesticides and cleaning equipment that is designed to catch spills, leaks, overflows, and wash water for reuse or disposal.

CONTAMINATION The presence of an unwanted substance in or on a plant, animal, soil, water, air, or structure. (See **RESIDUE**.)

CORROSIVE POISON A poison containing a strong acid or base that will severely burn the skin, mouth, stomach, or respiratory tract.

CRACK AND CREVICE APPLICATION The application of small amounts of pesticide into cracks and crevices in buildings such as along baseboards and in cabinets.

CROSS-CONTAMINATION When one pesticide accidentally mixes with another pesticide, usually in an improperly cleaned sprayer or in storage because of the airborne movement of a volatile pesticide.

CROSS-RESISTANCE When a pest population that is already resistant to one pesticide becomes resistant to a related chemical with a similar mode of action.

CURATIVE PESTICIDE A pesticide that can inhibit or kill a disease-causing organism after it is established in the plant or animal.

DANGER—POISON The signal word associated with pesticide products classified as highly toxic. This signal word is also associated with pesticide products that are corrosive or highly irritating to skin and eyes.

DAYS TO HARVEST The minimum number of days permitted by law between the last pesticide application and the harvest date. Same as **PREHARVEST INTERVAL**.

DAYS TO SLAUGHTER The minimum number of days permitted by law between the last pesticide application and the date the animal is slaughtered.

DECONTAMINATE To remove or degrade a chemical residue from the skin or a surface.

DEFOAMING AGENT An adjuvant used to reduce the foaming of a spray mixture due to agitation.

DEFOLIANT A chemical that initiates the premature drop of leaves, often as an aid in harvesting a crop.

DEGRADATION The process by which a chemical compound is broken down to simpler compounds by the action of microorganisms, water, air, sunlight, or other agents. Degradation products are usually, but not always, less toxic than the original compound.

DELAYED TOXICITY Illnesses or injuries that do not appear immediately after exposure to pesticides. The effects generally occur between 24 hours and several days after exposure.

DEPOSIT The presence of a pesticide on a treated surface after application.

DERMAL Pertaining to the skin.

DERMAL TOXICITY The ability of a pesticide to cause injury to a human or animal when absorbed through the skin.

DERMATITIS The inflammation, itching, irritation, or occurrence of a rash after exposure to a chemical.

DESICCANT A chemical that promotes drying or loss of moisture from leaves or other plant parts. Also, a chemical that removes water from arthropods or destroys the waxy covering that protects these organisms from water loss.

DETOXIFY To render a pesticide active ingredient or other poisonous chemical harmless.

DIAGNOSIS The positive identification of a problem and its cause.

DILUENT Any inert liquid, solid, or gaseous material that is combined with a pesticide active ingredient during the manufacturing process. Also, the water, petroleum product, or other liquid in which the formulated product is mixed before application. Also referred to as the **CARRIER**.

DIRECTED APPLICATION A precise application to a specific area or site, such as a basal application to woody plants or a crack and crevice treatment in a building.

DISINFECTANT A chemical or other agent that kills or inactivates disease-producing microorganisms in animals, seeds, or other plant parts. Also, commonly refers to chemicals used to clean or surface-sterilize inanimate objects.

DISPERSING AGENT An adjuvant that facilitates the mixing and suspension of a pesticide formulation in water.

DORMANT SPRAY A pesticide application made in late winter or early spring before the resumption of active growth by plants.

DOSE, DOSAGE The quantity of pesticide applied to a given site or target.

DRIFT The airborne movement of a pesticide spray, dust, particle, or vapor beyond the intended contact area.

DRIFT CONTROL ADDITIVE An adjuvant added to a spray mixture to reduce drift.

DROP SPREADER A common type of granular application equipment that has an adjustable sliding gate that opens holes in the bottom of the hopper, allowing the granules to flow out by gravity feed.

DRY FLOWABLE A dry, granular pesticide formulation that forms a suspension when added to water. Same as **WATER DISPERSIBLE GRANULE**.

DUST A finely ground, dry pesticide formulation containing a small amount of active ingredient and a large amount of inert carrier or diluent such as clay or talc.

ECONOMIC INJURY LEVEL The pest population density that causes losses equal to the cost of control measures.

ECONOMIC THRESHOLD The pest population density (number of pests per unit of area) at which control measures are needed to prevent the pest from causing economic injury.

EMULSIFIABLE CONCENTRATE A pesticide formulation produced by mixing an active ingredient and an emulsifying agent in a suitable petroleum solvent. When it is added to water, a milky emulsion is usually formed.

EMULSIFYING AGENT (EMULSIFIER) A chemical that aids in the suspension of one liquid in another that normally would not mix together.

EMULSION A mixture of two liquids that are not soluble in each another. One is suspended as very small droplets in the other with the aid of an emulsifying agent. Example: emulsifiable concentrate in water.

- ENCAPSULATED PESTICIDE** A pesticide formulation with the active ingredient enclosed in capsules of polyvinyl or other synthetic materials; principally used for slow release and to prolong their effectiveness. May also refer to a method of disposal of pesticides and pesticide containers by sealing them in a sturdy, waterproof container to prevent leakage of contents.
- ENCLOSED CAB** Tractor cabs, cockpits, and truck/vehicle cabs that surround the occupant(s) and may help to prevent exposure to pesticides as long as all doors, hatches or windows are kept closed during the pesticide application.
- ENDANGERED SPECIES** Individual plants or animals whose population has been reduced to near extinction.
- ENVIRONMENT** All the features that surround and affect an organism or group of organisms.
- ENVIRONMENTAL PROTECTION AGENCY (EPA)** The federal agency responsible for implementing pesticide rules and regulations and registering pesticides.
- EPA ESTABLISHMENT NUMBER** A number assigned to each pesticide production facility by the EPA. The number indicates the plant at which the pesticide product was produced and must appear on all labels of that product.
- EPA REGISTRATION NUMBER** A number assigned to a pesticide product by the EPA when the product is registered by the manufacturer or the designated agent. The number must appear on all labels for a particular product.
- ERADICANT** A chemical or other agent (steam, heat) used to eliminate an established pest from a plant, animal, or specific site (soil, water, buildings).
- ERADICATION** A pest management strategy that attempts to eliminate all members of a pest population from a defined area.
- EXPOSURE** Unwanted contact with pesticides or pesticide residues by people, other organisms, or the environment.
- FIFRA** The Federal Insecticide, Fungicide, and Rodenticide Act, a federal law dealing with pesticide regulations and use.
- FLOWABLE** A pesticide formulation in which a very finely ground solid particle, composed of both active and inert ingredients, is suspended in a liquid carrier. These formulations are mixed with water before spraying.
- FOAMING AGENT** An adjuvant designed to reduce pesticide drift by producing a thick foam.
- FOG TREATMENT** The application of a pesticide as a fine mist or fog.
- FOLIAR** Refers to pesticide applications to the leaves of plants.
- FOOD CHAIN** Sequence of species within an ecological community, each member of which serves as a food source for the species next higher in the chain.
- FORMULATION** The pesticide product as purchased, containing a mixture of one or more active ingredients, carriers (inert ingredients), and other additives diluted for safety and ease of application.
- FUMIGANT** A pesticide that forms gases or vapors toxic to plants, animals, and microorganisms.
- FUNGI** (singular: **FUNGUS**) Non-chlorophyll-bearing plants that live as saprophytes or parasites. Some infect and cause diseases in plants, animals, and humans or destroy wood and fiber products. Others are beneficial—for instance, decomposers and human food sources. Examples: rusts, mildews, molds, smuts.
- FUNGICIDE** A chemical used to control fungi.
- FUNGISTATIC AGENT** A chemical that inhibits the germination of fungal spores or the growth of mycelium but does not kill the fungus.
- GENERAL-USE PESTICIDE** A pesticide that can be purchased and used by the general public. (See **RESTRICTED-USE PESTICIDE**.)
- GERMINATION** The sprouting of a seed or the production of a germ tube (mycelium) from a fungus spore.
- GPA** Gallons per acre.
- GPM** Gallons per minute.
- GRANULE** A dry pesticide formulation. The active ingredient is either mixed with or coated onto an inert carrier to form a small, ready-to-use, low-concentrate particle that does not normally present a drift hazard. Pellets differ from granules only in their precise uniformity, larger size, and shape.
- GROUNDWATER** Water located in aquifers beneath the soil surface from which well water is obtained or surface springs are formed.
- GROWTH REGULATOR** A chemical that alters the growth processes of a plant or animal.
- HABITAT** The place where plants or animals live, feed, and reproduce.
- HARVEST AID CHEMICAL** A chemical material applied to a plant before harvest to reduce the amount of plant foliage. (See **DEFOLIANT**.)

HAZARD The likelihood that injury or death will occur from a given level and duration of exposure to a toxic chemical.

HEAT STRESS A potentially life-threatening overheating of the body.

HERBACEOUS PLANTS Plants that do not develop woody tissues.

HERBICIDE A pesticide used to control weeds.

HOST A plant or animal on or in which a pest lives and feeds.

HOST RESISTANCE The ability of a host plant or animal to resist attack by pests or to be able to tolerate the damage caused by pests.

HYDRAULIC SPRAYER A type of pesticide application equipment that uses water under pressure to deliver the pesticide to the target site.

HYDROLYSIS Breakdown of a chemical in the presence of water.

ILLEGAL RESIDUE A quantity of pesticide remaining on or in the crop/animal at harvest/slaughter that is either above the set tolerance or is not allowed to be used on the crop/animal.

IMPREGNATES Pet collars, livestock ear tags, adhesive tapes, plastic pest strips, and other products with pesticides incorporated into them. These pesticides slowly emit pesticide vapors over time and provide control of nearby pests.

INCOMPATIBLE Two or more materials that cannot be mixed or used together.

INERT INGREDIENTS Inactive materials in a pesticide formulation that do not possess pesticidal activity, although some inert ingredients may be toxic or hazardous to humans.

INGREDIENT STATEMENT The portion of the label on a pesticide container that gives the name and amount of each active ingredient and the total amount of inert ingredients in the formulation.

INHALATION TOXICITY The property of a pesticide to be poisonous to humans or animals when breathed in through the nose and mouth into the lungs.

INOCULUM That portion of the pathogen that can cause disease in a host.

INORGANIC PESTICIDES Pesticides of mineral origin—they do not contain carbon.

INSECT GROWTH REGULATOR (IGR) A type of insecticide that controls certain insects by disrupting their normal growth process from immature to adult.

INSECTICIDE A pesticide used to control or prevent damage caused by insects and related arthropods.

INSECTS Arthropods characterized by a body composed of three segments and three pairs of legs.

INSOLUBLE Refers to a chemical that does not dissolve in a liquid. For example, a wettable powder does not dissolve in water but rather forms a suspension.

INTEGRATED PEST MANAGEMENT (IPM) The use of all suitable pest control methods to keep pest populations below the economic injury level. Methods include cultural practices; use of biological, physical, and genetic control agents; and the selective use of pesticides.

INVERT EMULSION An emulsion in which water droplets are suspended in an oil rather than the oil droplets being suspended in water.

INVERTEBRATE A class of animals that lack backbones. Insects, spiders, nematodes, and snails and slugs are examples of invertebrates.

KEY PEST A pest that may cause major damage on a regular basis unless it is controlled. (See **SECONDARY PEST**.)

LABEL All printed material attached to or part of a pesticide container. The label is a legal document.

LABELING The pesticide product label and all supplemental pesticide information that complements the information on the label but may not necessarily be attached to or part of the container.

LARVAE (singular: **LARVA**) Immature forms of insects that undergo complete metamorphosis—developmental stages are egg, larva, pupa, and adult.

LARVICIDE A pesticide used to kill insect larvae. Commonly used to control mosquito and black fly larvae.

LC₅₀ The concentration of a pesticide, usually in air or water, that can kill 50 percent of a test population of animals. LC₅₀ is usually expressed in parts per million (ppm). The lower the LC₅₀ value, the more acutely toxic the chemical.

LD₅₀ The dose or amount of a pesticide that can kill 50 percent of the test animals when eaten or absorbed through the skin. LD₅₀ is expressed in milligrams of chemical per kilogram of body weight of the test animal (mg/kg). The lower the LD₅₀ value, the more acutely toxic the chemical.

LEACHING The movement through soil of a pesticide or other chemical that is dissolved in water.

LETHAL CONCENTRATION See **LC₅₀**.

LETHAL DOSE See **LD₅₀**.

LIFE CYCLE The series of stages that an organism passes through during its life. Many pest species, both plants and animals, pass through several life stages during which their susceptibility or tolerance to pesticides varies greatly.

MATERIAL SAFETY DATA SHEET (MSDS) A safety data sheet available from the manufacturer that provides information on chemical properties, toxicity, first aid, hazards, personal protective equipment, and emergency procedures to be followed in the event of a spill, leak, fire, or transportation crisis.

METABOLITE In pesticides, a compound derived from changes in the active ingredient through chemical, biological, or physical reactions. The metabolite may be simpler or more complex and may or may not be more poisonous than the original chemical.

METAMORPHOSIS A change in the shape, size, and/or form of animals as they develop from eggs through adults.

MICROBIAL DEGRADATION Breakdown of a chemical by microorganisms.

MICROBIAL PESTICIDE Bacteria, viruses, fungi, and other microorganisms used to control pests. Also called **BIORATIONALS**.

MICROENCAPSULATED PESTICIDE A formulation in which the pesticide active ingredient is encased in plastic capsules that release the pesticide slowly after application when the capsules start to break down.

MICROORGANISM An organism that is so small it cannot be seen without the aid of a microscope.

MINI-BULK CONTAINER A container that ranges in volume from 40 to 600 gallons and is adapted to closed systems. A mini-bulk container can be returned to the dealer for refilling.

MISCIBLE LIQUIDS Two or more liquids that can be mixed and will remain mixed under most conditions. Water and ethyl alcohol are miscible; water and oil are not.

MITE A small arthropod similar to an insect but with eight legs, two body parts, and no antennae.

MITICIDE A pesticide used to control mites. Same as **ACARICIDE**.

MODE OF ACTION The way in which a pesticide exerts a toxic effect on the target plant, animal, or microorganism.

MOLLUSCICIDE A chemical used to control snails and slugs.

MOLTING In invertebrates such as insects, spiders, and mites, the process of shedding the outer body covering or exoskeleton. Molting takes place to allow the animal to grow larger.

MUTAGEN A substance or agent able to cause genetic changes in living cells.

MYCELIUM The mass of filaments that forms the body of a fungus.

MYCOPLASMA A microorganism possessing many virus- and bacteria-like properties. Some cause plant diseases.

NARROW-SPECTRUM PESTICIDE A pesticide that is effective against only one or a few species of pests; the term is usually associated with insecticides and fungicides.

NATURAL ENEMIES The predators, parasites, and pathogens that attack and often kill other organisms.

NECROSIS The death of plant or animal tissues that results in the formation of discolored, sunken, and dead (necrotic) areas.

NEMATICIDE A pesticide used to control nematodes.

NEMATODES Microscopic, colorless, worm-like animals that live as saprophytes or parasites. Many cause diseases of plants or animals.

NEUROTOXIN A substance or agent able to cause disorders of the nervous system.

NO OBSERVABLE EFFECT LEVEL (NOEL) The maximum dose or exposure level of a pesticide that produces no observable toxic effect on test animals.

NON-PERSISTENT PESTICIDE A pesticide that does not remain active in the environment more than one growing season.

NON-POINT-SOURCE POLLUTION Pollution that comes from a widespread area. The movement of pesticides into streams or groundwater following a broadcast application to an agricultural field, large turf area, or right-of-way is an example of non-point-source pollution.

NON-SELECTIVE PESTICIDE A pesticide that is toxic to a wide range of plants or animals without regard to species. For example, a non-selective herbicide can kill or damage all plants it contacts.

NON-TARGET ORGANISMS Plants or animals within or adjacent to a pesticide-treated area that are not the intended targets of a pesticide application.

NOXIOUS WEED A plant defined by law as being particularly troublesome, undesirable, and difficult to control.

NYMPH The developmental state of insects with gradual metamorphosis that hatches from the egg. Nymphs become adults.

OCCASIONAL PEST A pest that does not recur regularly but causes damage intermittently as a result of changing environmental conditions or fluctuations in populations of natural enemies.

ONCOGEN A substance or agent able to induce tumors (not necessarily cancerous) in living tissues. (See **CARCINOGEN**.)

ORAL TOXICITY The occurrence of injury when a pesticide is taken by mouth.

ORGANOPHOSPHATES A large group of pesticides that contain the element phosphorus. Most are non-persistent insecticides, miticides, and nematicides. Many are highly toxic. Examples: malathion, parathion, diazinon, chlorpyrifos.

OVICIDE A material that destroys eggs.

OXIDIZER A highly reactive chemical that is potentially explosive and a fire hazard under certain conditions.

PARASITE A plant, animal, or microorganism living in, on, or with another living organism for the purpose of obtaining all or part of its food.

PARTICLE DRIFT The airborne movement of particles such as pesticide dusts, and pesticide-contaminated soil from the application site.

PATHOGEN A disease-causing organism.

PELLET A pesticide formulation consisting of dry active and inert ingredients pressed into a uniformly sized and shaped ready-to-use material; larger than granules.

PENETRANT An adjuvant added to a spray mixture to enhance the absorption of a pesticide.

PERCOLATION The downward movement of water through soil.

PERENNIAL A plant that lives for more than two years.

PERMEABILITY Refers to the ease with which water and dissolved pesticides can flow through porous materials such as soil, gravel, or sand.

PERSISTENT PESTICIDE A pesticide chemical (or its metabolites) that remains active in the environment more than one growing season. Some compounds can accumulate in animal and plant tissues or remain in the soil for years.

PERSONAL PROTECTIVE EQUIPMENT (PPE) Devices and clothing that protect pesticide applicators, handlers, and workers from exposure to pesticides.

PEST An undesirable organism (insect, bacterium, fungus, nematode, weed, virus, rodent) that is injurious to humans, desirable plants and animals, manufactured products, or natural products.

PESTICIDE Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, and any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.

PESTICIDE CONCENTRATE A pesticide formulation before any dilution occurs.

PESTICIDE HANDLER A person who works directly with pesticides, such as during mixing, loading, transporting, cleaning, storing, disposing, and applying, or who repairs pesticide application equipment.

PEST RESISTANCE The ability of an insect, fungus, weed, rodent, or other pest to tolerate a pesticide that once controlled it.

pH A measure of acidity/alkalinity; acid below pH7, basic or alkaline above pH7.

PHEROMONE A substance emitted by an animal to influence the behavior of other animals of the same species. Some are synthetically produced for use in insect traps.

PHOTODEGRADATION Breakdown of chemicals by the action of sunlight.

PHYTOTOXICITY Chemical injury to plants.

PISCICIDE A chemical used to control pest fish.

PLACARDS Public notices. U.S. Department of Transportation placards are diamond-shaped warning signs placed on all vehicles that transport certain types and quantities of hazardous materials.

PLANT GROWTH REGULATOR (PGR) A pesticide used to regulate or alter the normal growth of plants or the development of their plant parts.

POINT OF RUNOFF When a spray starts to run or drip from the leaves and stems of plants, or the hair or feathers of animals.

POINT-SOURCE POLLUTION The contamination of water and soil from a specific, identifiable place or location, such as a spill site or a permanent mixing, loading, and cleaning site.

POISON CONTROL CENTER An agency, generally a hospital, that has current information on proper first-aid techniques and antidotes for poisoning emergencies.

POSTEMERGENCE A pesticide that is applied after the weed or crop plants have appeared through the soil. Usually used to specify the timing of herbicide applications.

PPB Parts per billion. A way of expressing amounts of chemicals in or on food, plants, animals, water, soil, or air. One part per billion equals 1 pound in 500,000 tons.

PPM Parts per million. One part per million equals 1 pound in 500 tons.

PRECIPITATE A solid substance that forms in a liquid and settles to the bottom of a container; a material that no longer remains in suspension.

PREDACIDE A pesticide used to control predaceous animals, usually mammals.

PREDATOR An animal that attacks, kills, and feeds on other animals. Examples of predaceous animals are bears, wolves, coyotes, hawks, owls, snakes, fish, spiders, and many insects and mites.

PREEMERGENCE A pesticide that is applied before the weed or crop plants have appeared through the soil. Usually used to specify the timing of herbicide applications.

PREHARVEST INTERVAL Same as **DAYS TO HARVEST**.

PREMIX A pesticide product formulated by the manufacturer with more than one active ingredient.

PREPLANT PESTICIDE A pesticide applied before planting a crop.

PRESSURE-RINSE The process of decontaminating an empty pesticide container with water by using a special high-pressure nozzle to rinse the container.

PRIVATE APPLICATOR A person using or supervising the use of restricted-use pesticides to produce an agricultural commodity on his/her own land, leased land, or rented land, or on the lands of his/her employer.

PROPELLANT The inert ingredient in self-pressurized products that forces the active ingredient from the container. (See **AEROSOL**.)

PROTECTANT A pesticide applied to a plant or animal before infection or attack by the pest to prevent infection or injury by the pest.

PROTECTIVE EQUIPMENT Equipment intended to protect a person from exposure during the handling and application of pesticides. Includes long-sleeved shirts and long trousers, coveralls, suitable hats, gloves, shoes, respirators, and other safety items as needed.

PUPA The developmental stage of some insects between larva and adult.

PYRETHROID A synthetic insecticide that mimics pyrethrin, a naturally occurring pesticide derived from certain species of chrysanthemum flowers.

QUARANTINE A regulatory method to control the introduction and dissemination of plant and animal pests into new areas. Involves inspections, treatments, and destruction of contaminated plants/animals or their parts.

RATE OF APPLICATION The amount of pesticide applied to a plant, animal, unit area, or surface; usually expressed as per acre or per 1,000 square feet, linear feet, or cubic feet.

RCRA The Resource Conservation and Recovery Act, the federal law regulating the transport, storage, treatment, and disposal of hazardous wastes.

REGISTERED PESTICIDES Pesticide products that have been registered by the Environmental Protection Agency for the uses listed on the label.

REPELLENT A compound that keeps insects, rodents, birds, or other pests away from plants, domestic animals, buildings, or other treated areas.

RESIDUAL PESTICIDE A pesticide that continues to remain effective on a treated surface or area for an extended period following application.

RESIDUE The pesticide active ingredient or its breakdown product(s) that remain in or on the target site or in the environment after treatment. Pesticide residues may be on treated crops, feed products, or livestock that are moved from the treatment site.

RESISTANT A population of organisms that are uninjured or unaffected by a certain dosage of pesticide chemical used to successfully control other populations of the same organism. Also, plants and animals that are unaffected by a pest species. (See **TOLERANT**.)

RESTRICTED-ENTRY INTERVAL (REI) The amount of time that must elapse between treatment of the crop and the time when a person can reenter and handle the crop without wearing protective clothing and equipment or receiving early-entry training. Also referred to as **REENTRY INTERVAL**.

RESTRICTED-USE PESTICIDE A pesticide that can be purchased only by certified pesticide applicators and used only by certified applicators or persons under their direct supervision. Not available for use by the general public because of high toxicities and/or environmental hazards.

RINSATE A liquid obtained from rinsing pesticide containers and application equipment.

RODENTICIDE A chemical used to control rodents.

ROTARY SPREADER A common type of granular application equipment that distributes the granules to the front and sides of the spreader, usually by means of a spinning disk or fan.

RTU (ready-to-use) Low-concentrate formulations that are ready to use and require no further dilution before application.

RUNOFF The movement of water and associated materials on the soil surface.

SAFENER An adjuvant used to reduce the phytotoxic effects of a pesticide.

SAPROPHYTE An organism that obtains its food from dead or decaying organic matter.

SATURATED ZONE The layer of soil, sand, gravel, or fractured bedrock in which all available spaces are filled with water.

SECONDARY PEST A pest that becomes a serious problem when a key pest or natural enemy is controlled or eliminated.

SEED PROTECTANT A pesticide applied to seeds before planting to protect them from insects, fungi, and other soil pests.

SELECTIVE PESTICIDE A pesticide that is toxic to some pests but has little or no effect on other similar species. Example: some fungicides are so selective that they control only powdery mildews and no other fungi.

SERVICE CONTAINER A container designed to hold concentrate or diluted pesticide mixtures; not the original pesticide container.

SHELF LIFE The maximum period of time that a pesticide concentrate can remain in storage before losing some of its effectiveness.

SIGNAL WORDS Words that are required to appear on every pesticide label to denote the relative acute toxicity of the product. The signal words are **DANGER—POISON** used with a skull and crossbones symbol for potentially lethal products, **DANGER** for severe skin and eye damage, **WARNING** for moderately toxic, or **CAUTION** for slightly toxic compounds.

SILVICIDE A herbicide used to destroy brush and trees.

SITE The crop, animal, structure, commodity, or area where a pesticide is applied to control pests.

SLURRY A thick suspension of a pesticide made from a wettable powder and water.

SOIL APPLICATION A pesticide applied directly on or in the soil rather than on a growing plant.

SOIL DRENCH To soak or wet the ground surface with a pesticide. Large volumes of the pesticide mixture are usually needed to saturate the soil to any depth.

SOIL INCORPORATION The movement of a pesticide into soil by either mechanical means or irrigation.

SOIL INJECTION The placement of a pesticide below the surface of the soil. This is a common application method for fumigants and termiticides.

SOIL RESIDUAL PESTICIDE A chemical or agent that prevents the growth of all organisms present in the soil; a non-selective pesticide. Soil persistence may be temporary or permanent, depending on the chemical.

SOLUBILITY The ability of a chemical such as a pesticide to dissolve in a solvent, usually water.

SOLUBLE POWDER A finely ground dry pesticide formulation that will dissolve in water or some other liquid carrier.

SOLUTION Mixture of one or more substances in another substance (usually a liquid) in which all the ingredients are completely dissolved. Example: sugar in water.

SOLVENT A liquid such as water, oil, or alcohol that will dissolve another substance (solid, liquid, or gas) to form a solution.

SPACE SPRAY A pesticide applied as a fine spray or mist to a confined area.

SPORE The reproductive unit of a fungus. A spore is analogous to a plant seed.

SPOT TREATMENT An application to a small, localized area where pests are found.

- SPRAY DEPOSIT** The amount of pesticide chemical that remains on a sprayed surface after the droplets have dried.
- SPREADER** An adjuvant used to enhance the spread of a pesticide over a treated surface, thus improving the coverage.
- STABILITY** Refers to the ability of a chemical such as a pesticide to resist breaking down into metabolites. A highly stable pesticide can be stored for long periods without loss of activity.
- STATE LEAD AGENCY (SLA)** The agency within a state or territory designated by the EPA as having the authority for carrying out the provisions of FIFRA.
- STERILANT** A pesticide that prevents pests from reproducing.
- STICKER** An adjuvant used to improve the adherence of spray droplets to a plant, animal, or other treated surface.
- STOMACH POISON** A pesticide that must be eaten by an animal to be effective—it will not kill on contact.
- STRUCTURAL PESTS** Pests that attack and destroy buildings and other structures, clothing, stored food, and manufactured/processed goods. Examples: termites, cockroaches, clothes moths, rats, dry-rot fungi.
- SUMMER ANNUAL** Plants that germinate in the spring or summer and complete their life cycle within one year.
- SUPPLEMENTAL LABELING** EPA-approved written, printed, or graphic material supplied by the pesticide manufacturer that provides additional product information not present on the current container label. The additional information may include new application sites and rates, safety guidelines, Worker Protection Standard and PPE requirements, and endangered species advisories.
- SURFACTANT** An inert ingredient that improves the spreading, dispersing, and/or wetting properties of a pesticide mixture.
- SUSCEPTIBLE** A plant, animal, or site that is affected by a pest. Also refers to pest populations that can be controlled by pesticides.
- SUSPENSION** A pesticide mixture consisting of fine particles dispersed or floating in a liquid, usually water or oil. Example: wettable powders or flowables in water.
- SWATH** The width of the area covered by one sweep of an airplane, ground sprayer, spreader, or duster.
- SYMPTOM** Any detectable change in an organism resulting from the activities of a pathogen or other pest. Also, an indication of pesticide poisoning in humans and other animals.
- SYNERGISM** The effect of two or more pesticides applied together that is greater than the sum of the individual pesticides applied separately. Example: Pesticide X kills 40 percent of an insect population; Pesticide Y kills 20 percent. When applied together, X and Y kill 95 percent.
- SYSTEMIC EFFECTS** Poisoning effects that occur at sites other than the entry point into the body.
- SYSTEMIC PESTICIDE** A chemical that is absorbed and translocated within a plant or animal.
- TANK MIX** A mixture of products in a spray tank.
- TARGET** The plants, animals, structures, areas, or pests at which the control method is directed.
- TECHNICAL MATERIAL** The pesticide active ingredient in pure form as it is manufactured by a chemical company. It is usually combined with inert ingredients or additives in formulations such as wettable powders, dusts, emulsifiable concentrates, or granules.
- TEMPERATURE INVERSION** A weather-related event that occurs when cool air is trapped near the surface under a layer of warm air. Under these conditions very little vertical mixing of air occurs, and small spray droplets or vapors may remain suspended in the cool air layer for long periods and move with any air flow. Damage from spray drift often occurs under such conditions.
- TERATOGEN** A substance or agent able to produce abnormalities or defects in living human or animal embryos and fetuses. These defects are not usually inheritable.
- TERMITICIDE** An insecticide used to control termites.
- THICKENER** A drift control adjuvant such as cellulose or gel used to promote the formation of a greater proportion of large droplets in a spray mixture.
- TOLERANCE** The maximum amount of a pesticide residue that may legally remain on or in food or feed commodities at harvest or slaughter; established by the EPA for each crop and every pesticide used on a specific crop.
- TOLERANT** A characteristic of organisms (including pests) that are able to withstand a certain degree of stress such as weather, pesticides, or attack by a pest.
- TOXIC** Poisonous to living organisms.

TOXICANT A poisonous substance such as the active ingredient in a pesticide formulation.

TOXICITY The degree or extent to which a chemical or substance is poisonous.

TOXICOLOGY The study of the effects of toxic substances on living organisms.

TOXIN A naturally occurring poison produced by plants, animals, or microorganisms. Examples: the poison produced by the black widow spider, the venom produced by snakes, the botulism toxin.

TRADE NAME A brand name that is registered as a trademark by the manufacturer.

TRANSLOCATION The movement of materials within a plant or animal from the site of entry. A systemic pesticide is translocated.

TRANSPORTATION SECURITY PLAN A plan required of all operations that transport pesticides in containers that are larger than 119 gallons or in quantities greater than 1,000 pounds. The U.S. Department of Transportation requires that the plan include protection against unauthorized access, a security check for employees that pick up and transport placarded hazardous materials, and a security plan for the intended travel route. Vehicles that transport pesticides in these quantities must be placarded (see **PLACARDS**).

TRIPLE-RINSE The process of decontaminating an empty pesticide container by partially filling the container with water, replacing the lid, shaking the container, and then pouring the rinsate in the spray tank. This process is repeated three times.

ULTRA-LOW VOLUME (ULV) Sprays that are applied at 0.5 gallon or less per acre, often as the undiluted formulation.

UNCLASSIFIED PESTICIDES Pesticides that are commonly referred to as general-use pesticides. They can be bought and used by the general public without special permits or restrictions.

USDA United States Department of Agriculture.

VAPOR DRIFT The movement of chemical vapors from the application site. Like pesticide spray drift, vapor drift can injure non-target plants or animals.

VAPOR PRESSURE The property that causes a chemical to evaporate. The higher the vapor pressure, the more volatile the chemical—the easier it will evaporate.

VECTOR An animal (e.g., insect, nematode, mite) or plant (e.g., dodder) that can carry and transmit a pathogen from one host to another.

VERTEBRATE An animal characterized by a segmented backbone or spinal column.

VIRUS Ultramicroscopic parasites. Viruses can multiply only in living tissues and cause many animal and plant diseases.

VOLATILITY The degree to which a substance changes from a liquid or solid state to a gas at ordinary temperatures when exposed to air.

WARNING A signal word used on pesticide products that are considered moderately toxic; these pesticides have an oral LD₅₀ between 50mg/kg and 500mg/kg or a dermal LD₅₀ between 200 and 2,000mg/kg.

WATER-DISPERSIBLE GRANULE A dry, granular formulation that breaks apart and disperses to form a suspension when added to water. (See **DRY FLOWABLE**.)

WATER-SOLUBLE CONCENTRATE A liquid pesticide formulation that dissolves in water to form a true solution.

WATER-SOLUBLE PACKET Wettable powder or soluble powder formulations packaged in a special type of plastic bag that dissolves and releases its contents when placed in water.

WATER TABLE The boundary between the overlying unsaturated rock or soil and the saturated zone.

WEED A plant growing where it is not wanted or where it is in direct conflict with the well-being of humans and their activities.

WETTABLE POWDER A dry pesticide formulation in powder form that forms a suspension when added to water.

WETTING AGENT An adjuvant used to reduce the surface tension between a liquid and the contact surface for more thorough coverage.

WINTER ANNUAL Plants that germinate in the fall and complete their life cycle within one year.

WORKER PROTECTION STANDARD (WPS) A federal regulation that intends to reduce the risk of pesticide poisoning and injuries among agricultural workers and handlers. The WPS requires agricultural employers to provide protections to workers and handlers, including but not limited to: safety training, posting of application sites, and decontamination supplies.